

DoD Logistics Human Capital Strategy



Developing an Integrated, Agile, and High-Performing Future Workforce of Multi-Faceted, Interchangeable Logisticians That Succeed in a Joint Operating Environment



Office of the Secretary of Defense
Logistics & Materiel Readiness

May 12, 2008

Report Documentation Page			<i>Form Approved OMB No. 0704-0188</i>		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 12 MAY 2008	2. REPORT TYPE	3. DATES COVERED 00-00-2008 to 00-00-2008			
4. TITLE AND SUBTITLE DoD Logistics Human Capital Strategy		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Department of Defense,Logistics and Materiel Readiness,Washington,DC		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 48	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

DoD Logistics Human Capital Strategy Timeline



DoD Logistics Human Capital Strategy

A Message from the Deputy Under Secretary of Defense for Logistics & Materiel Readiness



The Department of Defense (DoD) logistics workforce exists to deliver agile, timely, precise, and cost-effective support to the warfighter, ensuring readiness and sustainability for the Active and Reserve Soldiers, Sailors, Marines, and Airmen, and the government civilians and industry partners who support the armed forces across the spectrum of military operations. While its mission and purpose are constant, the logistics workforce faces a perpetually evolving strategic environment. As the world changes rapidly, profoundly, and in every dimension—social, economic, and political—the logistics workforce needs to continuously evolve and operate in a way that optimizes the human capital of the entire enterprise rather than individual parts.

It is imperative that the logistics workforce align its human capital with transformed warfighting, modernized weapons systems, business rules, emerging enterprise management systems, and executive-level strategic goals. The community should also be grounded in teamwork and collaboration; ultimately, all logisticians across the enterprise would view one another as partners and contributors willing to support each other to achieve mission accomplishment.

The DoD Logistics Human Capital Strategy (HCS) supports these goals and fulfills the requirements and objectives of the President's Management Agenda, the Quadrennial Defense Review (QDR), the DoD Civilian Human Capital Strategic Plan, and the AT&L Human Capital Strategic Plan. It has been developed to serve as a valuable resource for the Services' and Agencies' logistics human capital efforts. I encourage leaders within OSD, the Services, Agencies, and combatant commands (COCOMs) to continue to support and move forward with these comprehensive and forward-leaning workforce strategies.

Jack Bell
JACK BELL

Deputy Under Secretary of Defense
for Logistics & Materiel Readiness

A Message from the Executive Steering Group

The undersigned, members of the DoD logistics Human Capital Strategy (HCS) Executive Steering Group (ESG), are pleased to present the following HCS summarizing the vision, challenges and path forward for transformation of the DoD logistics workforce.



JAMES D. HALL

Chairman, Executive Steering Group

Assistant Deputy Under Secretary of Defense (Logistics Plans & Studies)



JOHN J. PRENDERGAST

RDML, SC, USN

Vice Director for Logistics, JS



ALAN F. ESTEVEZ

Principal Assistant Deputy Under Secretary of Defense (Logistics & Materiel Readiness)



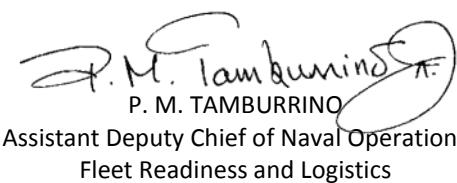
MICHAEL A. AIMONE, P.E.

Assistant DCS/Logistics, Installations & Missions Support
US Air Force



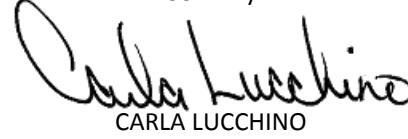
THOMAS J. EDWARDS

Assistant Deputy Chief of Staff, G-4
US Army



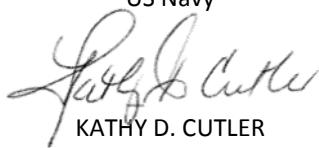
P. M. TAMBURRINO

Assistant Deputy Chief of Naval Operations
Fleet Readiness and Logistics
US Navy



CARLA LUCCHINO

Assistant Deputy Commandant,
Installations and Logistics
Headquarters, US Marine Corps



KATHY D. CUTLER

Executive Director

Materiel Policy, Process and Assessment Directorate (J-3Y)
Defense Logistics Agency



MARK D. HARNITCHEK

RADM, USN

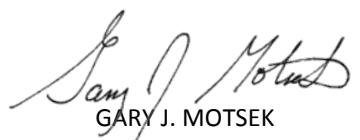
Director, Strategy, Policy, Programs, and Logistics
USTRANSCOM



FRANK J. ANDERSON, JR.

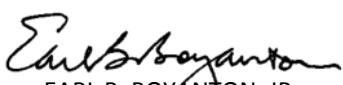
President

Defense Acquisition University



GARY J. MOTSEK

Assistant Deputy Under Secretary of Defense (Program Support)



EARL B. BOYANTON, JR.

Assistant Deputy Under Secretary of Defense (Transportation Policy)

Table of Contents

Message from the DUSD (Logistics & Materiel Readiness)	ii
Message from the Executive Steering Group	iii
<i>Where We Want to Go</i>	
Executive Summary	1
DoD Logistics Human Capital Strategy at a Glance	2
HCS Pillar 1: Logistics Career Roadmap	3
HCS Pillar 2: Logistics Competencies	5
HCS Pillar 3: Logistics Career Development Framework	7
HCS Pillar 4: Education, Training, & Developmental Assignments	9
HCS Pillar 5: Certificate/Certification Program	9
HCS Pillar 6: Executive Steering Group	9
DoD Logistics Human Capital Challenges and the Path Forward	10
<i>How We Will Get There</i>	
DoD Logistics Human Capital Strategy	13
Action One: Develop DoD Enterprise Logisticians	15
Action Two: Operationalize the Logistics Career Development Framework	21
Action Three: Analyze the Logistics Workforce	24
DoD Logistics Human Capital Strategy Timeline	28
Appendix A: Strategic Alignment and Drivers	31
Appendix B: Key Trends and Strategic Environment of Tomorrow	35
Appendix C: Sample Competency with Proficiency Detail	37
Appendix D: References and Further Information	39

Executive Summary



While its mission and purpose are constant, the logistics workforce faces a continuously evolving strategic environment. The DoD Logistics Human Capital Strategy (HCS) provides a clear vision that establishes the foundation for the future logistics workforce, culture, and human resources practices.

DoD Logistics HCS Vision and Benefits

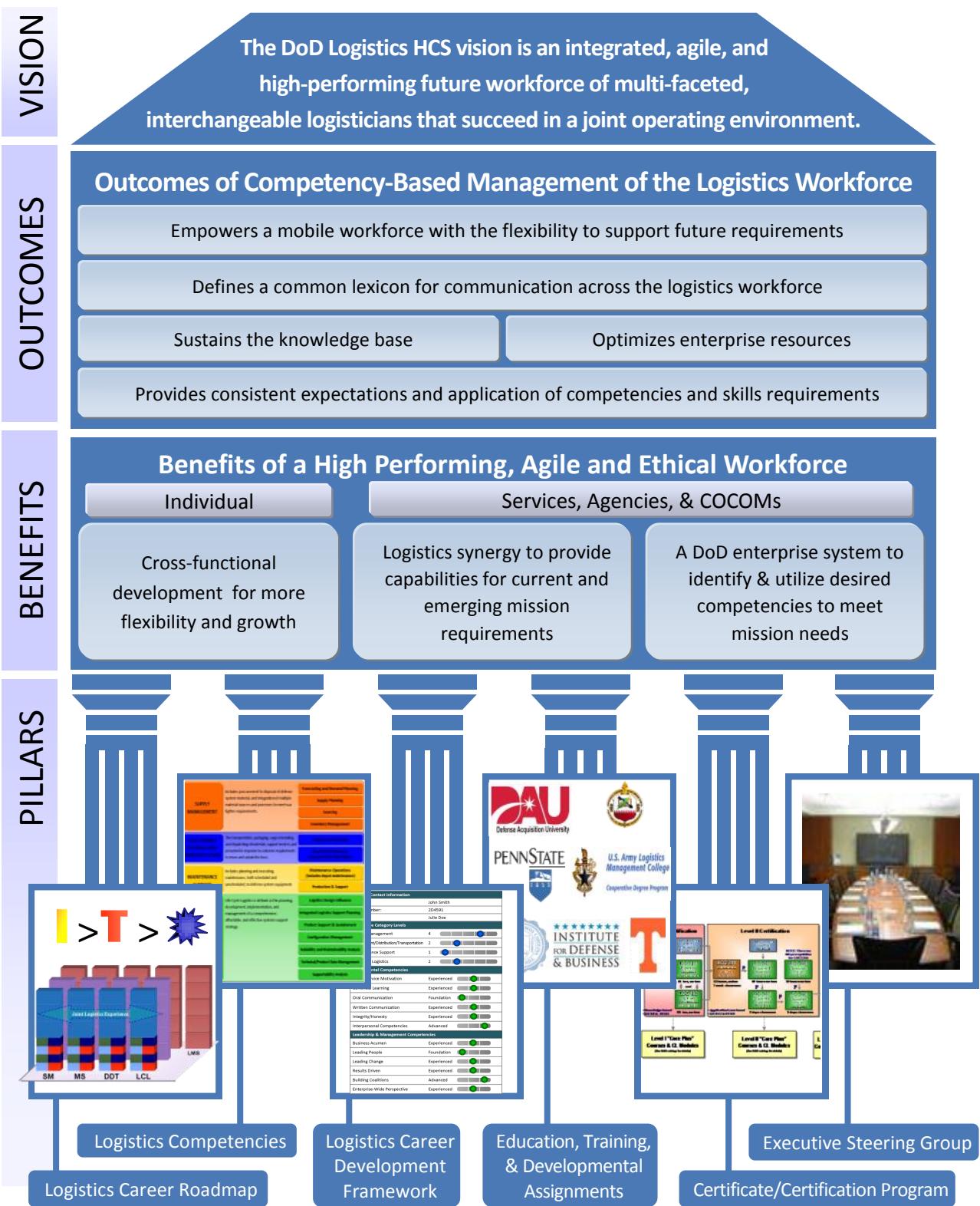
The DoD Logistics HCS vision is an integrated, agile, and high-performing future workforce of multi-faceted, interchangeable logisticians that succeed in a joint operating environment. The bedrock of this vision is competency-based management of the DoD's logistics workforce, manifest in the creation of a logistics career roadmap with a common lexicon and set of core logistics competencies and proficiencies. Operationalized through a DoD Logistics Career Development Framework (LCDF), this roadmap will provide the future logistics workforce with the right mix of function-specific subject matter experts and multi-faceted Enterprise Logisticians.

The HCS will benefit DoD logisticians, and the Services, Agencies, and COCOMs. For individuals, the HCS provides a clear career roadmap and development framework with consistent expectations and application of competencies and skill requirements, in addition to enhanced opportunity for cross-functional development, flexibility, and growth. For the Services, Agencies, and COCOMs, the HCS improves logistics synergy which, in turn, provides better capabilities for current and emerging mission requirements. In addition, the HCS provides an enterprise system that will enable identification, development, and utilization of the desired competencies to meet mission needs.

DoD Logistics HCS Pillars

Six elements, described in the pages that follow, will contribute to success: the logistics career roadmap (page 3); logistics competencies and proficiencies (page 5); the Logistics Career Development Framework (page 7); education, training, and developmental assignments (page 9); certificate and certification program (page 9); and the Executive Steering Group (page 9).

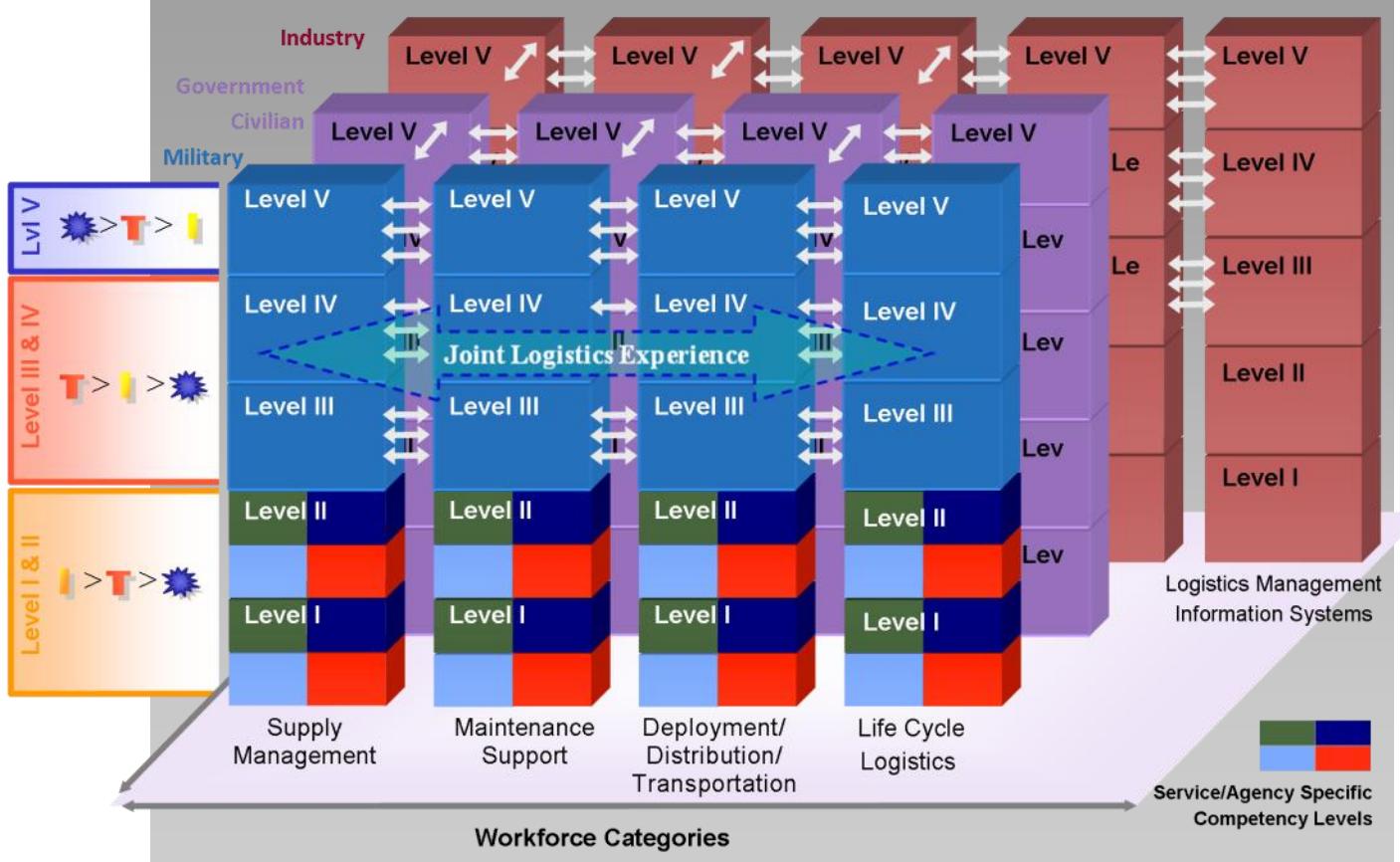
DoD Logistics Human Capital Strategy at a Glance



HCS Pillar 1: Career Roadmap

The DoD Logistics HCS provides a well-defined career roadmap for logisticians across the Services and Agencies to progress from entry level through senior leadership. Figure 1, below, is a notional depiction of this roadmap, with the five levels of logistics competencies (see page 5) grouped into the four workforce categories of the Logistics Career Development Framework (LCDF): Supply Management, Maintenance Support, Deployment/Distribution/Transportation, and Life Cycle Logistics. These competencies are arranged in a progression from individual focus to organizational focus; as logisticians advance through the five competency levels, they are expected to have an increasingly broad, enterprise-wide perspective as well as joint experience. The LCDF provides a clear framework for presentation of this information, allowing individuals to see where they are on the continuum and what is expected of them to demonstrate the next level. From this, individuals can proactively manage their professional development.

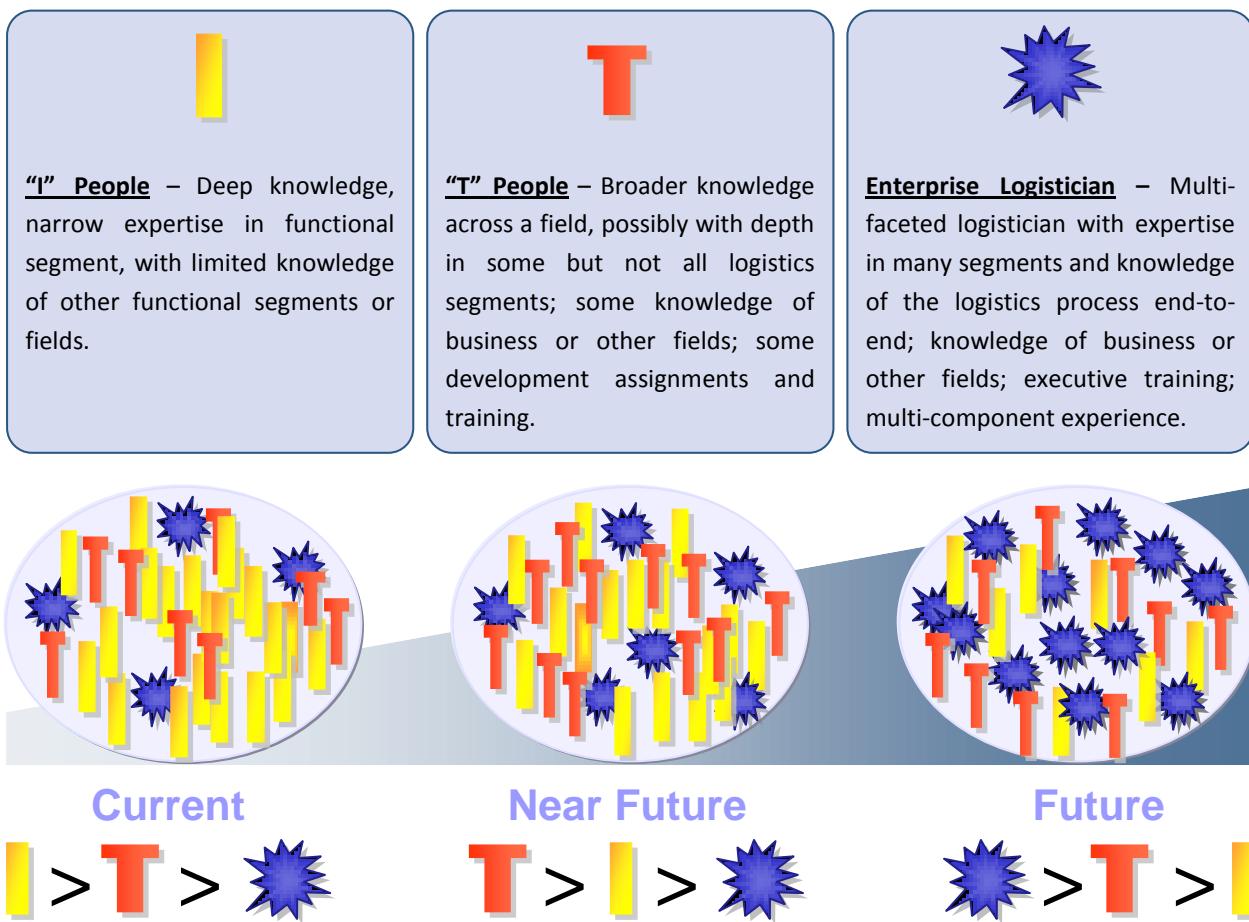
Figure 1: Notional Logistics Career Roadmap



Achieving the Right Mix of “I,” “T” and “E” Logisticians

Ultimately, the career roadmap and LCDF are designed to achieve the right mix of function-specific subject matter experts and multi-faceted Enterprise Logisticians. Historically, the logistics population was predominantly comprised of personnel possessing a deep level of knowledge in one specific area demonstrated by a narrow range of expertise within one function field; these personnel are classified as “I” people. As careers progressed, some logisticians expanded their knowledge of logistics to include a second or third functional field; those with this expanded knowledge are known as “T” people illustrating they possess broader knowledge with depth in some, but not all, logistics fields. Multi-faceted logisticians with expertise in many segments and knowledge of the logistics process end-to-end are designated “Enterprise” logisticians; the Enterprise Logician or “E” person goes beyond the “I” and the “T” people. The future logistics environment necessitates a DoD logistics workforce comprising all three types of people; as depicted in Figure 2, however, the most significant growth in the coming years will be in both “T-” and “E-”type logisticians.

Figure 2: Developing Enterprise Logisticians



HCS Pillar 2: Logistics Competencies & Proficiencies



One of the key pillars of the DoD Logistics HCS is implementation of a Logistics Career Development Framework (LCDF), which involves identification, definition, and validation of competencies and proficiencies for the logistics workforce. A competency is defined by the Office of Personnel Management (OPM) as a measurable pattern of knowledge, skill, abilities, behaviors, and other characteristics that are needed to successfully perform work-related tasks. Competencies are developed, attained, and sustained through training, developmental and rotational assignments, experience (both professional and personal), education, and self-development. Attainment of a certain level of competency is assessed based on demonstrated abilities to apply the competency in different situations and/or circumstances. Attainment is not based just on performance in a role over time, nor is it tied to grade or rank.

Three types of competencies, depicted in Figure 3, have been identified and defined:

Workforce Category Technical Competencies, of which there are fifteen, describe logistics work specific to each of the four identified workforce categories. Workforce category technical competencies are defined and assessed from level 1 to level 5, with level 1 reflecting an entry level capability and level 5 reflecting enterprise-wide recognized subject matter expertise.

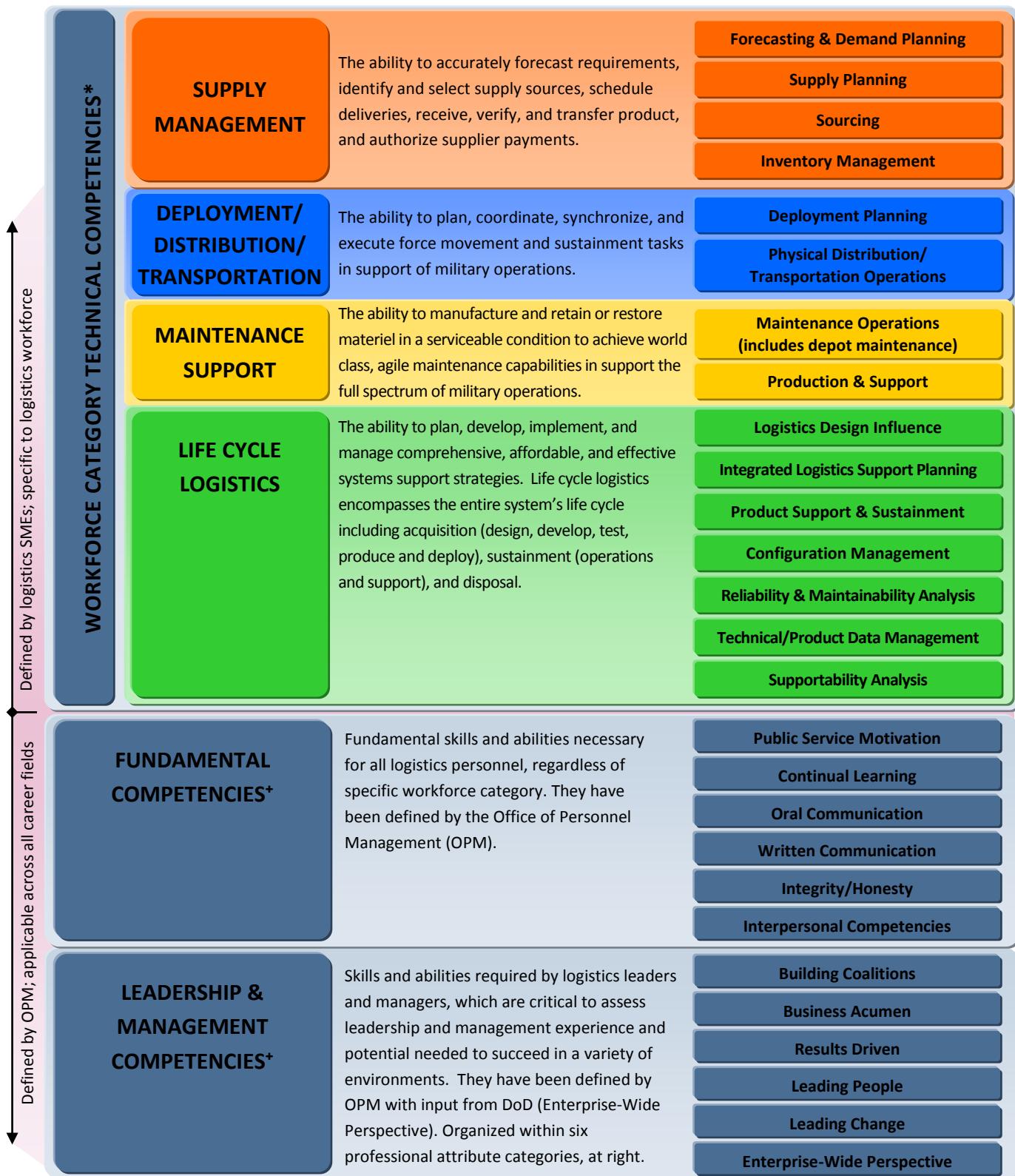
Fundamental Competencies, of which there are six, describe fundamental skills and abilities necessary for all logistics personnel, regardless of specific workforce category. Fundamental competencies, defined by OPM, are defined and assessed at three levels: foundation, experienced and advanced.

Leadership & Management Competencies, of which there are twenty-five (organized into six professional attribute categories), describe skills and abilities required by logistics leaders and managers. Defined by OPM and DoD, these competencies are defined and assessed at three levels: foundation, experienced and advanced.

Proficiencies — The Building Blocks of Competencies

To define the fifteen technical competencies at five levels of capability, logistics subject matter experts (SMEs) identified hundreds of proficiencies. Each provides a description of the demonstration of attaining and sustaining a competency through increasing levels of relevant, timely, and applicable experiences. They are coupled with the employee's ability to apply that competency in increasingly broader assignments with wider results. See Appendix C for an example of proficiencies across five levels of a Maintenance Support competency.

Figure 3: Three Types of Competencies are Defined

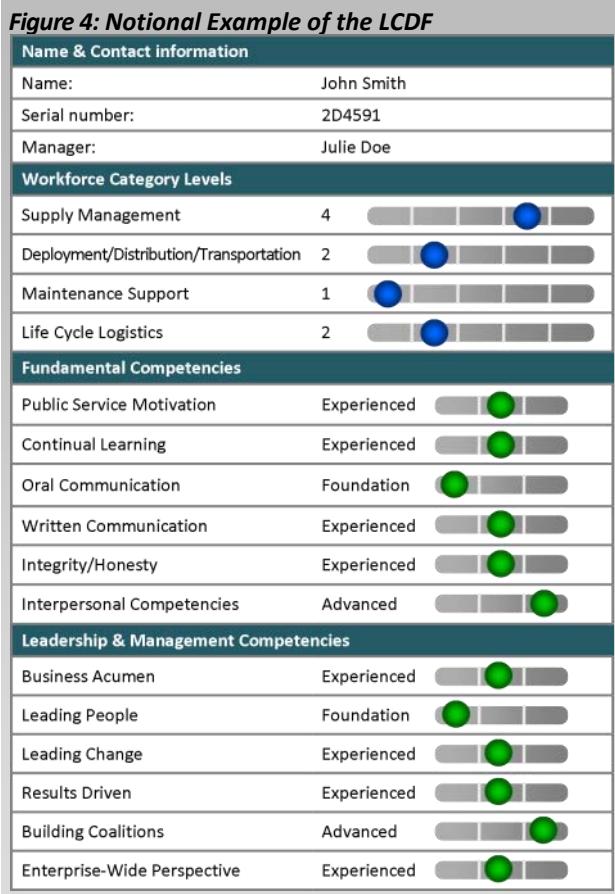


* Assessed from level 1 (entry level) to level 5 (enterprise-wide recognized subject matter expertise).

+ Assessed at three levels: foundation, experienced and advanced.

HCS Pillar 3: Logistics Career Development Framework

The LCDF is a structured management framework of processes, tools, and strategic guidance used to enable the education, training, and development of the logistics workforce. In short, the LCDF provides a repository (Figure 4) for the developed competencies—supported by and linked to relevant education, training, certification, and other human capital development areas—and



provides the framework for career roadmaps (Figure 6) for employees and leadership to manage and assess professional development. The LCDF facilitates enterprise-wide workforce management, a common lexicon, and professional development.

Enterprise-Wide Workforce Management

The LCDF creates a single approach to professional development across all Services and Agencies that house the logistics workforce. In direct support of the overall mission to establish a high-performing, agile, and ethical workforce, the LCDF benefits the individual, Services, Agencies, and COCOMs (see “DoD Logistics HCS at a Glance,” page 2). Figure 5 shows how the LCDF enables enterprise-wide identification and utilization of desired competencies to meet mission needs.

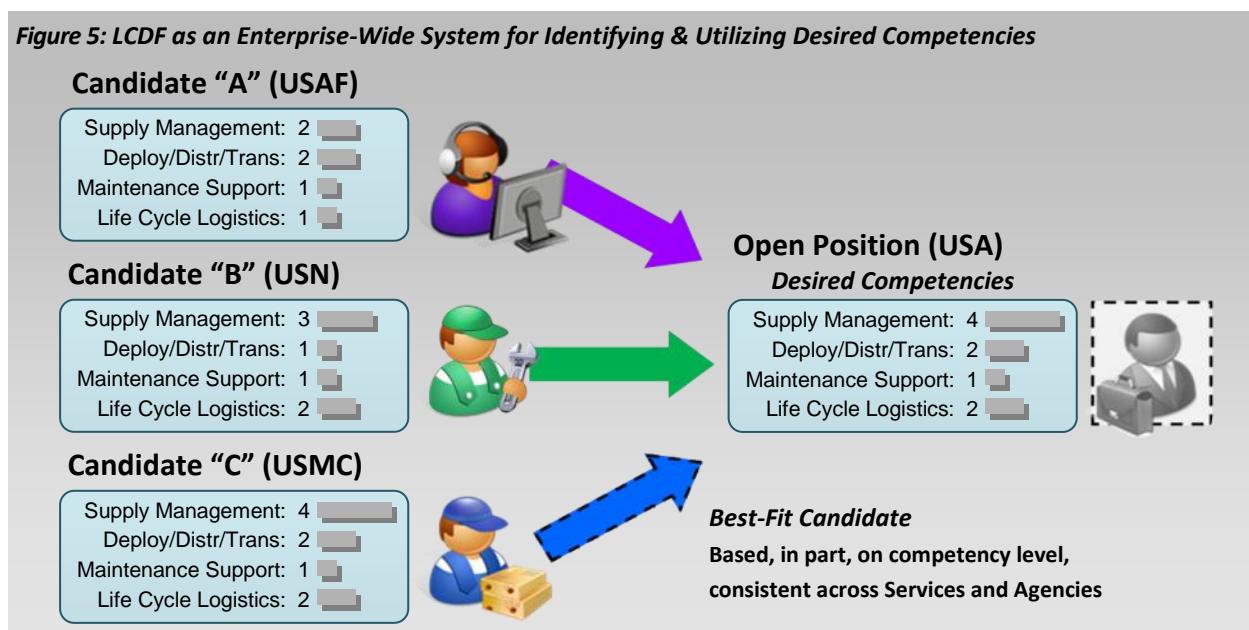
The LCDF provides a tool for the planning and

evaluation of professional development. A comparison of competencies necessary to and already resident in the workforce identifies skills gaps that can be addressed through training or education. Strategy can be developed to address future needs, both identifying future leaders and the competencies they will need to lead effectively.

Common Lexicon

Identification of competencies results in a common lexicon across the logistics workforce supporting the tenets of logistics workforce development. This enables more rapid and efficient ramp up when teams from multiple Services and/or Agencies must be brought together in a joint environment. While individual experiences will differ, all staff will share a common understanding and be able to communicate effectively when the boots hit the ground .

Figure 5: LCDF as an Enterprise-Wide System for Identifying & Utilizing Desired Competencies



Professional Development

Planning a career can seem an overwhelming task. The LCDF and the career roadmaps will provide guidance as logisticians plan their careers within DoD. Together, the LCDF and career roadmaps will allow the logistician to see how far he/she has come, what is required in his/her current assignment, and what is necessary to succeed in the future. Rather than time in grade, an individual's progression involves the documentation of relevant training, education, and demonstration of competencies. Staff can assume greater responsibility for career development by following the flexible roadmaps according to their strengths, needs, and available positions. Moreover, the roadmaps provide leadership a mechanism to more effectively act in the capacity of mentor by providing a clear basis and focus for coaching.

Figure 6: How the LCDF Supports the Career Roadmap



Other HCS Pillars



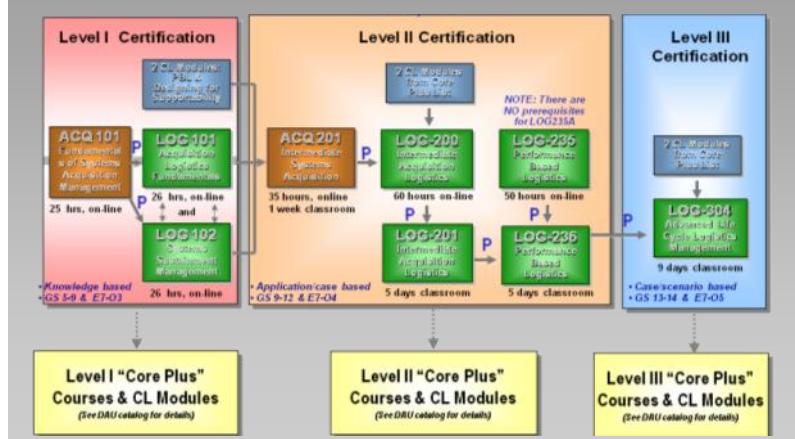
Education, Training, & Developmental Assignments

Development of Enterprise Logistician competencies is supported by education, training, and developmental assignments. Education is derived from formal programs established in conjunction with higher education institutions and focused on gaining a body of knowledge. Training is narrower and focuses on an individual gaining a specific skill necessary to perform work. Developmental assignments are formal programs designed to stimulate professional growth through on-the-job experiences. There are currently several development programs established within the Services and Agencies that can be used as models for the creation of additional programs. Additionally, developmental opportunities often include a component of formal and informal mentoring.

Certificate/Certification Program

A DoD-specific Certificate and Certification program supports the LCDF by providing a program of recognition that defines levels of professionalism over an individual's career. A Certificate/Certification program represents a step beyond the assessment process that carries a degree of significance. Individuals who elect to pursue the certificate/certification process will need to meet the standards established by DoD. The standards may include education levels, continuing education requirements, and developmental assignments (see Figure 7 for an example)

Figure 7: AT&L Life Cycle Logistics Defense Acquisition Workforce Improvement Act (DAWIA) Certification Example



HCS Executive Steering Group (ESG)

The ESG comprises senior leaders from the OSD, Services and Agencies possessing logistics populations. The primary role of the ESG is to coordinate and provide guidance for the logistics HCS. In this role, the ESG reviews and validates logistics competencies; advocates and supports HCS-related change; addresses challenges and provides strategic direction; and sponsors and supports logistics SME participation.

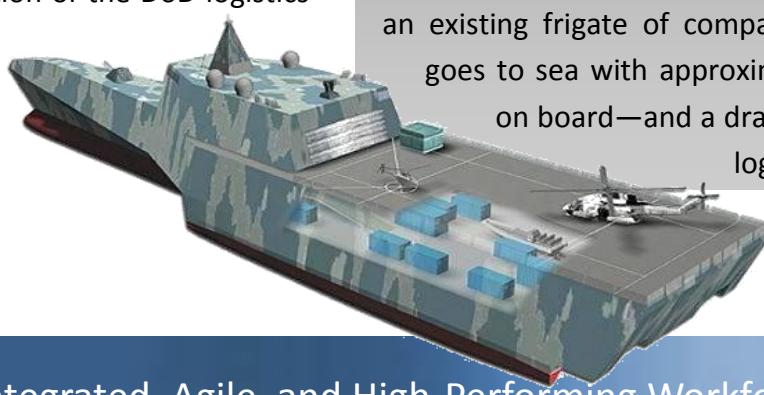
DoD Logistics Human Capital Challenges and Path Forward

The DoD—along with the federal government and U.S.A. as a whole—faces myriad challenges in the coming years (discussed in detail in Appendix B). Simply put, the future military will require better capabilities at a significantly lower cost. This fact holds many implications for the logistics workforce. The coming demographic challenges, in particular, drive the need for more efficient, flexible, and innovative human capital management. In the near term, this may mean heavier emphasis on incentives, retention bonuses, and alternative work schedules, designed to retain the existing near-retirement workforce for as long as possible. In the long term, however, the DoD must position itself to recruit, train, and retain a logistics workforce that possesses the diverse set of technological and business competencies required to master the challenges of new operating and business environments.

While presently comprising a majority of individuals with deep, narrow expertise in a functional segment (“I” personnel), the future logistics workforce requires a greater number of individuals with broad knowledge across the logistics field and depth in some, but not all, logistics segments (“T” people) and multi-faceted logisticians with expertise in many segments and knowledge of the end-to-end logistics process (Enterprise Logisticians).

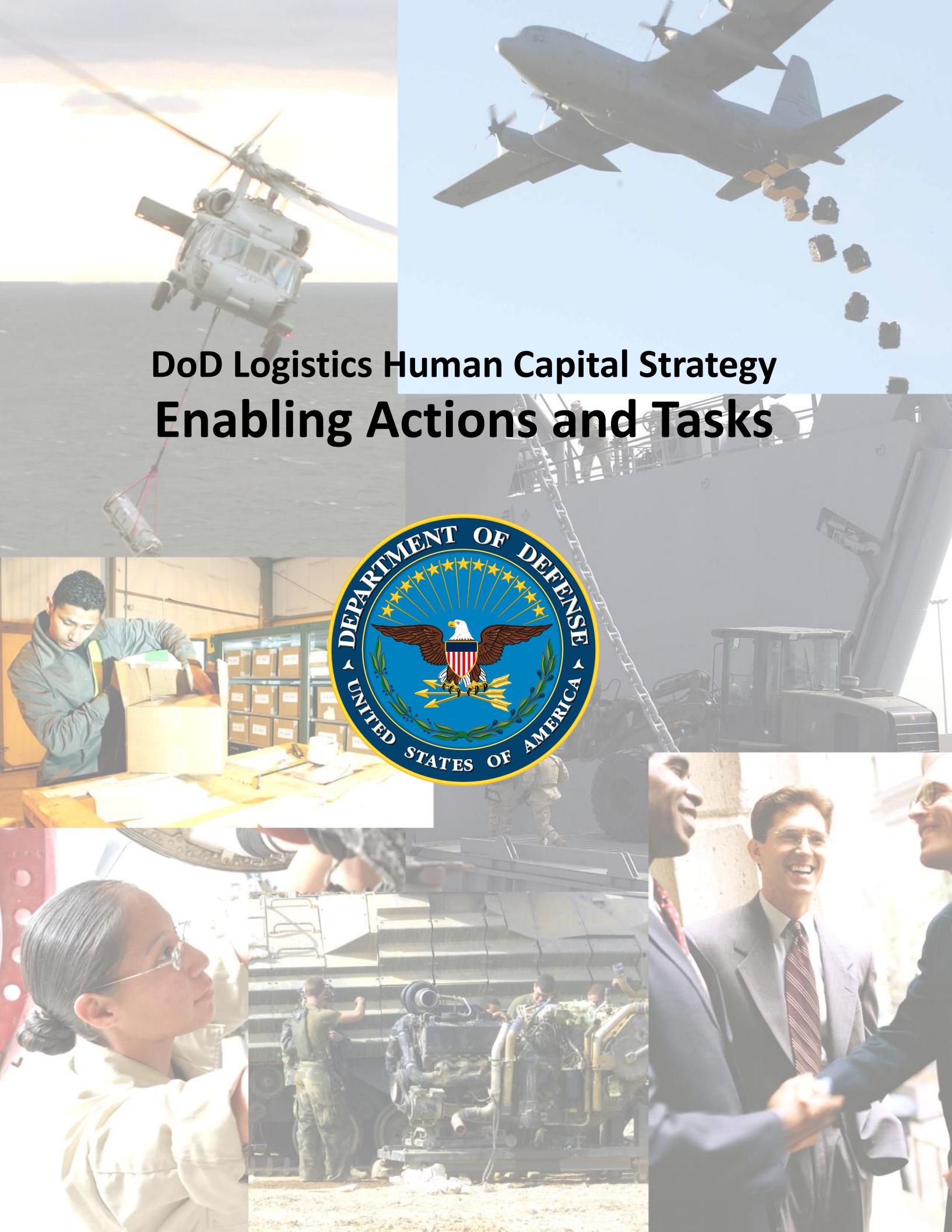
To address the above challenges and build a more multi-faceted and skilled workforce to support the warfighter, the DoD logistics community can focus on the recruitment and retention of highly-qualified logisticians. Initiatives such as development of a competency-based management system must be fully deployed in order to provide an objective and consistent system for qualified logisticians to plan and realize their professional growth and development.

Specifically, the HCS goals, actions, and tasks establish a path forward for development of Enterprise Logisticians and transformation of the DoD logistics workforce.



The physical impact of workforce shrinkage can be mitigated by improved management, advanced technology, improved processes, and increased technical competency. The Littoral Combat Ship (LCS), for instance, is designed for a core crew of about 40 sailors—compared to an existing frigate of comparable size, which goes to sea with approximately 200 sailors on board—and a dramatically-reduced logistics footprint.

[This page intentionally left blank]



DoD Logistics Human Capital Strategy Enabling Actions and Tasks



DoD Logistics Human Capital Actions, Tasks, and Outcomes

Overarching Goal: A DoD Logistics Career Development Framework to Support an Integrated, Agile, and High-Performing Future Workforce

Actions	Tasks	Dates	Outcomes
1: Develop DoD Enterprise Logisticians	1.1: Define Workforce Categories and Associated Competencies & Proficiencies	Q3 07 – Q2 08	Identification of competencies by workforce category Definition of breadth and depth of each competency through proficiencies Understanding the requirements necessary to perform successfully as a logistician
	1.2: Education, Training, & Developmental Assignments	Q1 08 – Q3 08	Identification of existing developmental opportunities Ability to create new developmental opportunities based on current programs Mapping of current training, education, and developmental assignments to proficiencies Identification of proficiencies without associated training, education, or developmental assignments Direction for the development of new training, education, and developmental assignments to address proficiencies
	1.3: Certificate/Certifications	Q4 08 – Q2 09	Common recognition for levels of competency across the Services, Agencies, and COCOMs Methodology for recognizing the attainment of a level of professional development
	1.4: Career Path Identification	Q2 09 – Q4 09	Published roadmaps Support for individuals who wish to advance Guide for management to aid those seeking to advance DoD-level review of existing training
2: Operationalize the DoD Logistics Career Development Framework	2.1: Assessment	Q2 09 – Q4 09	Consistent, established assessment criteria Common understanding of assessment levels across the Services, Agencies, and COCOMs Milestones for career planning
	2.2: Plan and Pilot LCDF Implementation	Q1 10+	Common and accessible system for tracking individual's competency levels Ability to match work requirements with individuals Institutionalizes a common approach to development and assignments based on work requirements
3: Analyze the DoD Logistics Workforce	3.1: Current State Analysis	Q1 09	Clear picture of the DoD logistics' workforce Defined metrics that can be updated regularly Indication of where the workforce will be impacted by aging personnel Current competency snapshot
	3.2: Emerging Work Requirements Analysis	Q2 09	Cohesive future to focus work upon Indication of personnel levels required to execute future work Identification of competencies needed to perform work
	3.3: Competency Gap Analysis	Q3 09	Identification of lacking competencies Understanding logistics personnel spread in each Service and Agency Identification of needed development assignments and training requirements
	3.4: Plan for the Gap	Q4 09	Creation of roadmap forward Identification of potential mitigation strategies Development and implementation of a competency-based development framework

In the first half of this document, a vision for the DoD logistics workforce was laid out. In the pages that follow, the means for achieving this vision are described. Specifically, a number of actions and tasks are enumerated which focus on:

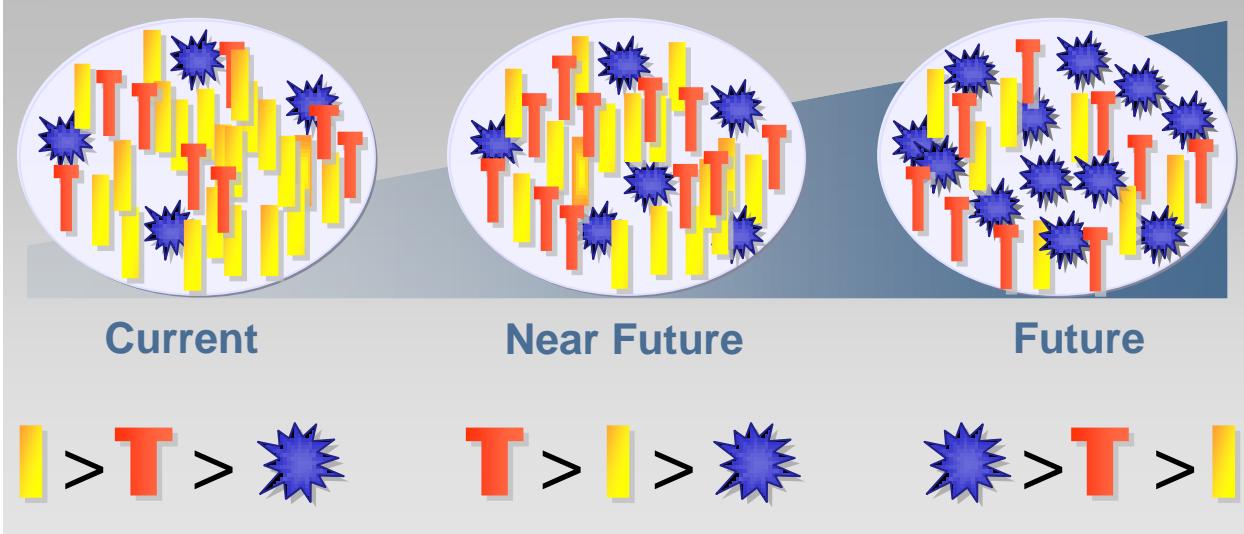
- Achieving the HCS vision of developing an integrated, agile, and high-performing future workforce of multi-faceted, interchangeable logisticians that succeed in a joint operating environment (Actions 1-3);
- Aligning with relevant federal and DoD guidance, including the President's Management Agenda, the Office of Personnel Management (OPM) human capital methodologies, the QDR, and the USD (Personnel & Readiness) DoD Human Capital Strategy (Actions 1-3);
- Defining future logistics workforce categories, competencies, and associated proficiencies (Action 1);
- Developing the education, training, and developmental assignments programs necessary to develop the future logistics workforce (Action 1);
- Planning and staffing a workforce with the right number and mix of function-specific experts and multi-faceted Enterprise Logisticians (Action 1);
- Laying the groundwork for implementation of a LCDF which supports human capital management and professional development across the logistics workforce (Action 2); and
- Identifying the logistics workforce current state, emerging work requirements, and planning for gaps (Action 3)



Action One: Develop DoD Enterprise Logisticians

As described on page 4, the future logistics environment necessitates a DoD logistics workforce with a mix of “I-,” “T-,” and “E-”type logisticians. Achieving this balance and developing tomorrow’s Enterprise Logisticians require definition of a common set of logistics competencies and proficiencies; identification of education, training, and developmental assignments programs necessary to support professional development and joint experience; development of a common certificate/certification program; and identification of “I,” “T,” and “E” career paths.

Figure 8: Developing DoD Enterprise Logisticians

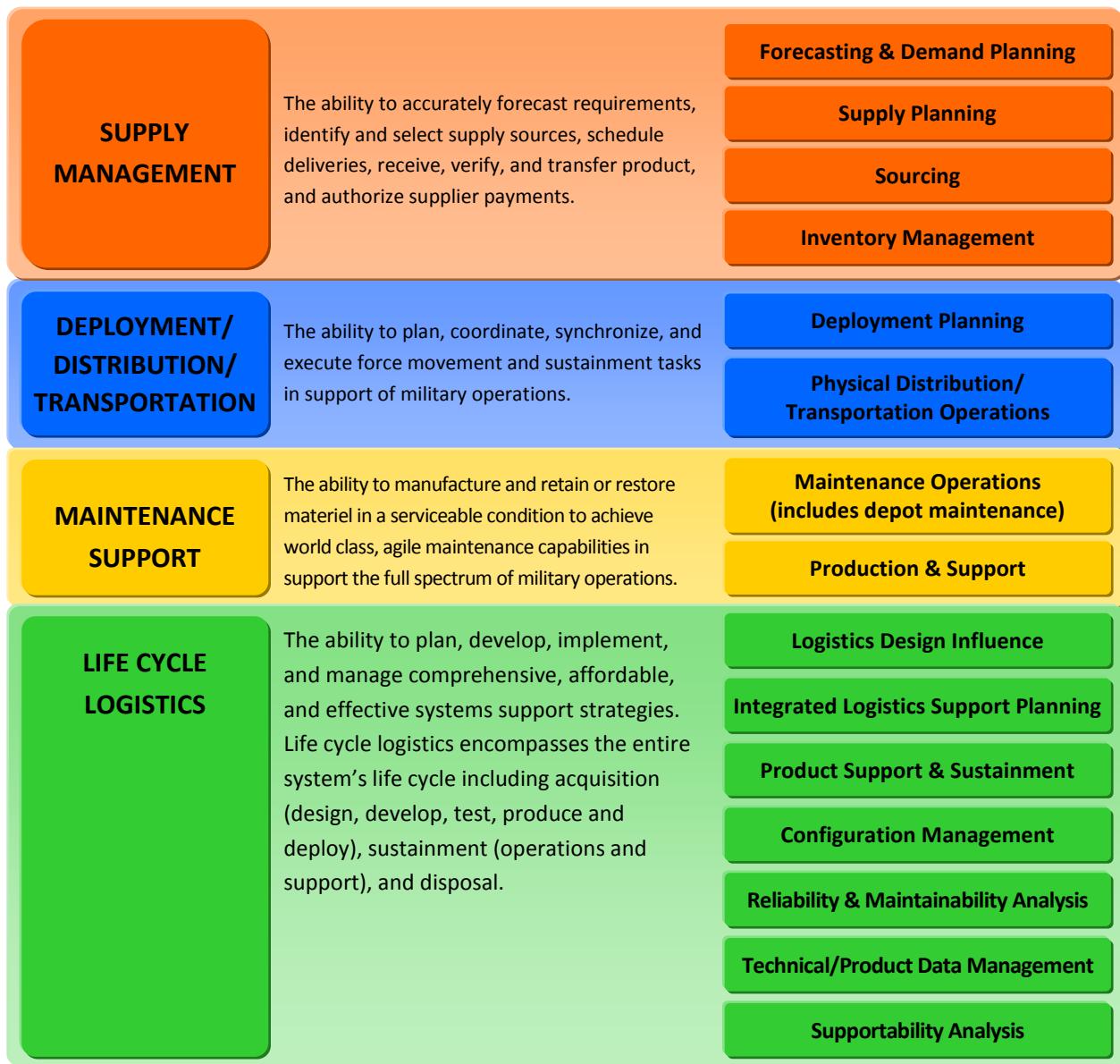


Task One: Define Workforce Categories and Associated Competencies and Proficiencies of DoD Enterprise Logisticians

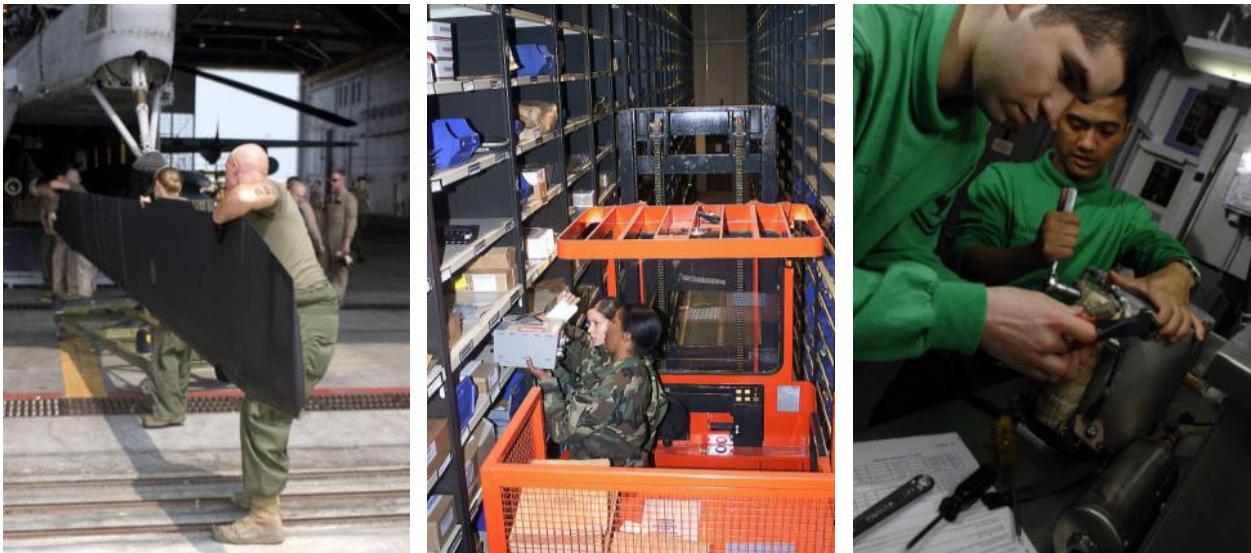
To paint a complete picture of the Enterprise Logistician, the competencies and proficiencies have been defined. The Services and Agencies came together in a cohesive, focused effort to identify and define the competencies that will be necessary in the future. Fifteen competencies were identified and classified within four workforce categories, as depicted (with abbreviated definitions) in Figure 9.

Nearly 50 SMEs were identified by the respective ESG members representing the Services and Agencies by workforce categories, which had been identified and defined by the Functional Integrated Process Team (FIPT). The SMEs were senior DoD civilians with strong backgrounds

Figure 9: Logistics Workforce Technical Categories, Definitions, and Competencies



in logistics and able to fully represent the logistics work of their Services and Agencies. A facilitated, week-long workshop focused on defining current and future work performed as competencies unique to the logistics career field. With the competencies identified and defined, the SMEs then began the process of writing proficiencies to support each competency. The proficiencies offer guidance as to the work, skills, knowledge, and abilities necessary to be competent across a career. The proficiencies depict the growth of a competency across five levels.



The developed competencies and proficiencies were socialized among the Services and Agencies by the logistics SMEs and ESG members. As a representative body, the SMEs came together to review and incorporate feedback, and also to ensure the competencies were categorized appropriately and formed a complete picture. The structure of competencies and proficiencies will allow logisticians to understand the requirements necessary to plan a career along an “I”, a “T,” or an “E” path.

In the future state, the “I” logisticians will grow in depth and breadth in one workforce category, while the “T” logisticians will be grown across two. The Enterprise Logistian will be a blend of the competencies tailored to the needs of the Services and Agencies. Job profiles and career paths will reflect the need for multiple and varied competencies.

Outcomes:

- Identification of competencies by workforce category
- Definition of breadth and depth of each competency through proficiencies
- Understanding the requirements necessary to perform successfully as a logistian

Task Two: Education, Training, & Developmental Assignments

While competencies are a combination of demonstrated experience, skills, and abilities, development of competencies is supported by education, training, and developmental assignments. Education is derived from formal programs established in conjunction with higher education institutions and focused on gaining a body of knowledge. Training is narrower and focuses on an individual gaining a specific skill necessary to perform work.

Developmental assignments are formal programs designed to stimulate professional growth through on-the-job experiences. They can range in duration; however, they often average 6 to 24 months. Several development programs are currently established within the Services and Agencies and can be used as models for the creation of additional programs. Developmental opportunities often include a component of formal and informal mentoring.

Typically with formal mentoring, a mentor is assigned to an individual by the program's personnel. With informal mentoring, the individual and mentor select each other, and the relationship is not structured. There are benefits and advantages to both forms of mentoring, and all forms of mentoring should be encouraged within the Services and Agencies to support personnel growth.

Another component of developmental opportunities is self development. Individuals should be encouraged to identify skills where further exposure would be beneficial. As individuals take greater responsibility for career development, they can work with their organizations to identify opportunities on-the-job to facilitate personal growth.

Work has already begun to identify education and training necessary to support the creation of Enterprise Logisticians. This involves analysis and reconciliation of existing resources within the Services, Agencies, and Academic and Industry partners. Where redundancy exists, education and training resources can be combined or leveraged to increase efficiency and promote logistics integration across the enterprise. Where existing programs are insufficient to prepare for future needs, education and training must be developed and adequately resourced to ensure the logistics workforce today is given the tools necessary to succeed in the future.

Outcomes:

- Identification of existing developmental opportunities
- Ability to create new developmental opportunities based on current programs
- Mapping of current training, education, and developmental assignments to proficiencies
- Identification of proficiencies without associated training, education, or developmental assignments
- Direction for the development of new training, education, and developmental assignments to address proficiencies

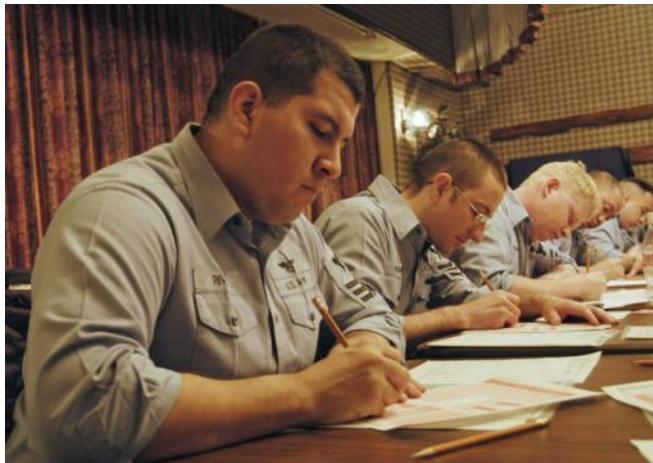
Task Three: Certificate/Certifications

A DoD-specific Certificate and Certification program will support the LCDF by providing a program of recognition that defines levels of professionalism over the course of an individual's career. Certificate/certification is a step beyond the assessment process and carries an added degree of significance. Individuals who elect to pursue the certificate/certification process will need to meet the standards established by DoD. The standards may include education levels, continuing education requirements, and developmental assignments.

Together the Services and Agencies will outline the requirements for certificate/certification levels. These guidelines will be communicated across the logistics workforce. Certificate/certification will require its own distinct process based on the LCDF Assessment process.

Outcomes:

- Common recognition for levels of competency across Services and Agencies
- Methodology for recognizing the attainment of a level of professional development



Task Four: Career Path Identification

Defined competencies aid the DoD in tailoring education and developmental opportunities to support individuals and managers in developing careers.

For most individuals, their career advancement is of utmost interest. An individuals' understanding of the future requirements identified through published roadmaps help him/her plan out futures within DoD. Documented career paths demonstrate the DoD's commitment to be an employer of choice and an organization where an individual can truly grow.

Clearly defined competencies set the standard of knowledge needed by the logistics workforce. The competencies should be used by the DoD to evaluate existing training and education, as well as in the creation of new training and assessment of outside educational opportunities. As competencies cannot be gained through training or education alone, developmental opportunities can be identified or designed to support the development of competencies over the course of a logistician's career.

Outcomes:

- Published roadmaps
- Support for individuals who want to advance
- Guide for management to aid those seeking to advance
- DoD-level review of existing training



Action Two: Operationalize the DoD Logistics Career Development Framework

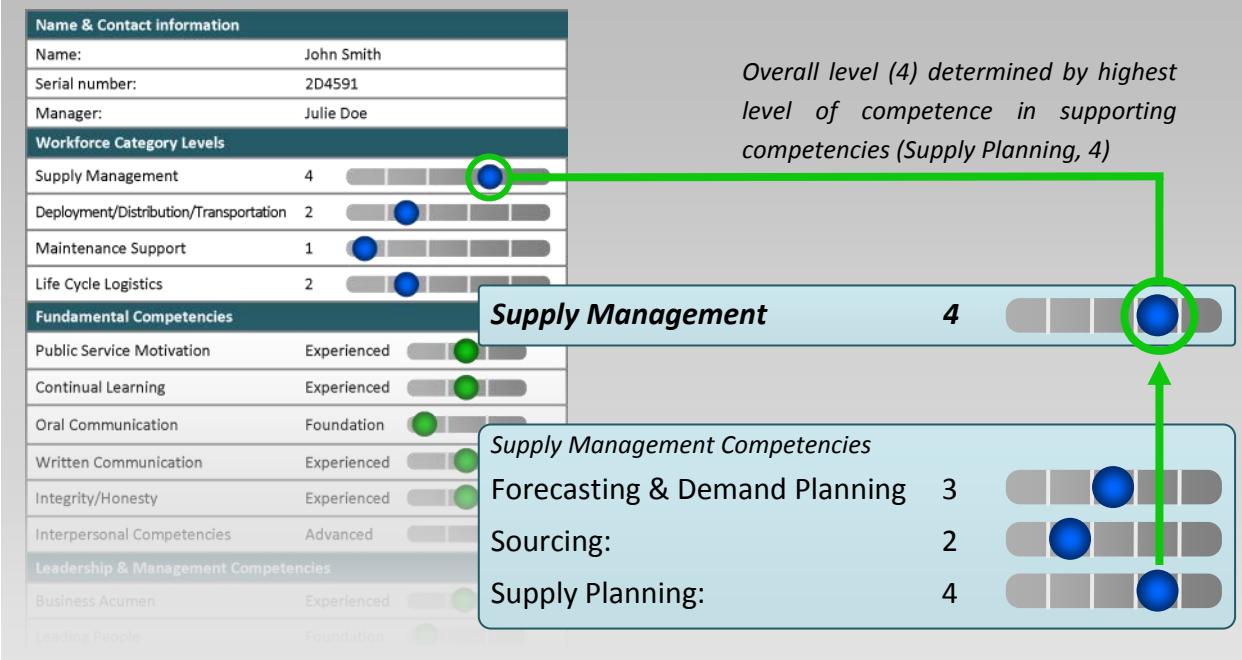
Task One: Assessment

In order to determine whether or not an individual has demonstrated a competency, the LCDF establishes the criteria against which an individual is rated. As noted previously, each competency is supported by a number of proficiencies that provide guidance for understanding the specific requirements. For example, a requirement for progression through the rating levels may be for an individual to meet a greater percentage of the proficiencies defined for each competency:

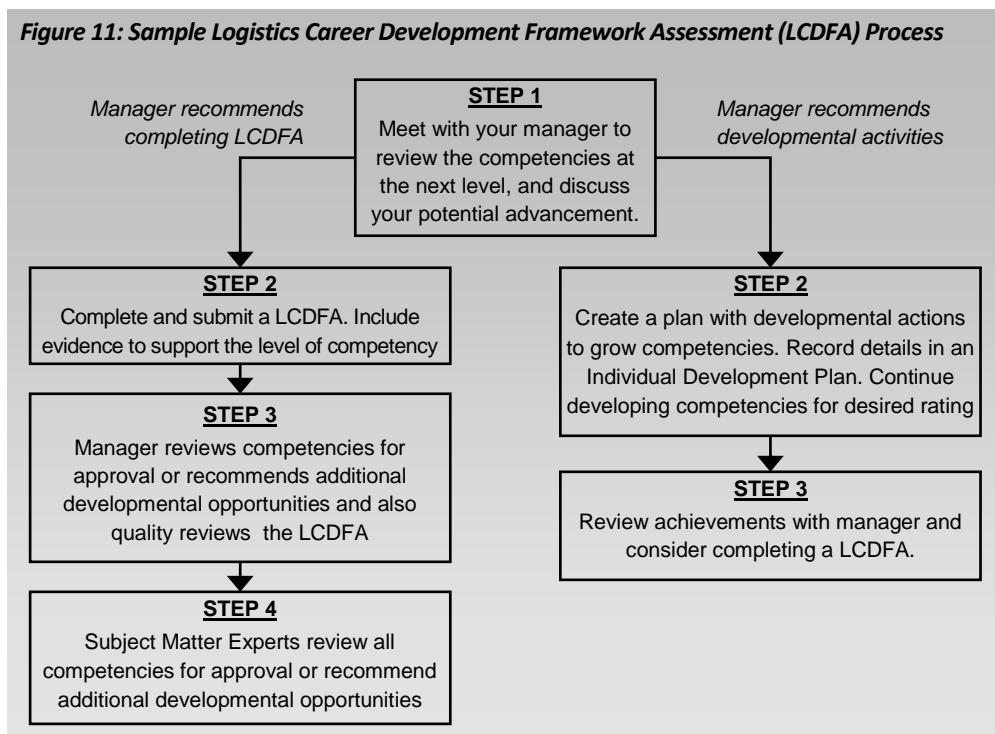
- Rating Level 3 – Individual meets 75 – 80% of identified proficiencies
- Rating Level 4 – Individual meets 85 – 90% of identified proficiencies
- Rating Level 5 – Individual meets 95 – 100% of identified proficiencies

Once the competencies within a workforce category are rated, they may be used to determine an overall rating for that category. For instance, an individual may receive an overall rating equal to the highest level of competence achieved in the supporting competencies, as depicted in Figure 10, below :

Figure 10: Determination of Workforce Category Overall Rating Level Example



The next step to operationalize the LCDF is the design of an appropriate assessment process. The challenge is in designing a process that strikes the appropriate balance between the level of detail required and the amount of time dedicated to the review cycle. At the most basic level, the Logistics Career Development Framework Assessment (LCDFA) process should require self-assessment and review by members of the workforce who have achieved certain levels of competency. Figure 11 provides an illustration of a potential assessment process flow.



The Services and Agencies should work together to create a standard across DoD that provides the highest level of confidence in the process. There will need to be a strong communications campaign educating the workforce in both the LCDF and the LCDFA Process.

It can be anticipated that the first assessment cycle will be particularly time consuming and will require strong support from leaders across DoD. Each logistian would have to document how he/she demonstrates the appropriate competencies and proficiencies to then be reviewed and approved. Once the baseline is set, the ongoing process should then be less onerous for all involved.

Outcomes:

- Consistent, established assessment criteria
- Common understanding of assessment levels across Services and Agencies
- Milestones for career planning

Task Two: Plan and Pilot LCDF Implementation

The final step in operationalizing the LCDF is a pilot implementation of the framework and LCDFA process. Prior to beginning a roll-out across the logistics workforce, a database tool is needed to track the assessments across DoD.

Communication will be critical in explaining the entire LCDF and garnering acceptance across the workforce. A strong support for gaining organizational buy-in is the pilot implementation. After the pilot and incorporation of lessons learned, a full roll out can be planned and initiated.

Once the workforce has participated in the initial assessment process, the populated database can be used to staff positions by performing web-based searches for individuals with specific combinations of competencies. In order to match individuals with specific needs, the roles and positions will need to be rated by competencies and levels.

Outcomes:

- Common and accessible system for tracking individual's competency levels
- Ability to match work requirements with individuals
- Institutionalize a common approach to development and assignments based on work requirements



Action Three: Analyze the DoD Logistics Workforce

Data collected across government, and in fact, all of industry illustrates a pressing need to understand the current workforce demographics and the implications on future work. The DoD Logistics HCS program identified changes to the strategic environment that will impact the military at global, national, and DoD levels. DoD has already identified 25 mission-critical occupations (MCOs). MCOs are defined by OPM as “occupations agencies consider core to carrying out their mission.” The Logistics Management Specialist is one of the DoD’s identified MCOs.

Task One: Current State Analysis

Before planning for the future, understanding of where the organization is today is needed; within the DoD logistics community, this is particularly challenging. With the large number of potential workforce series attributed to the community, a current state analysis can be a major undertaking for each Service and Agency.

There are a variety of approaches available to determine which pieces of information, quantitative and qualitative, should be collected. Figure 12 illustrates potential metrics that can provide a good understanding of where DoD is today.

Figure 12: Sample Quantitative Current State Analysis Metrics

Metric	Rationale
Employee Commitment	Strong indicator of organizational health
Permanent to Contractor Ratio	Knowledge Management – degree of dependency on contingent workforce
Separation Rate by Tenure	Top line impact : productivity interrupted consistency bottom line : replacement costs
Voluntary/Involuntary Separation Rate	Indicator of losing and retaining the right people
Internal to External Recruitment Ratio	Indicative of internal talent pool and development programs
Job Series Representation	Alignment of capabilities to organizational strategy
Length in Position	An indicator of consistency and productivity
Grade/Band/Rank	Criteria for segmentation
Education Level	Indicator of job requirements

From these metrics, a variety of reports can be developed providing a picture of the current state and prevailing trends. A solid set of metrics support the subsequent strategic planning undertaken to ensure that future human capital needs will be met.

Building on the current DoD Logistics HCS work of identifying and defining the competencies with supporting proficiencies needed by future logisticians, Services and Agencies need to gain an understanding of which of these competencies are currently within the existing workforce and where they are resident.



Quantitative metrics are not the only indicator of an organization's current state. Qualitative data has a place in such an analysis as well. Surveys, interviews, and focus groups are used to measure an organization's current perception of the current state and the future of work. The information collected ultimately provides executive leadership with insight into the organization's readiness to accept and address change.

Outcomes:

- Clear picture of the DoD logistics workforce
- Defined metrics that can be updated regularly
- Indication of where the workforce will be impacted by aging personnel
- Current competency snapshot



Task Two: Emerging Work Requirements Analysis

While knowing where the organization is provides the basis, planning requires an understanding of where the organization wishes to go. Clearly, planning for the future is of great importance to the DoD, and intellectual capital is already being produced to aid in planning.

From the materials available, each Service and Agency should look at the work it anticipates being required to perform. From this future work, the competencies and specific skills necessary are identified. The anticipated work levels serve as the basis for the planned distribution of the logistics workforce. Combined, the work levels and the required competencies form the future blueprint of the workforce. As the future is fluid, the emerging work requirements, personnel levels, and competencies are revisited to ensure the DoD logistics workforce is able to succeed.

Outcomes:

- Cohesive future to focus work upon
- Indication of personnel levels required to execute future work
- Identification of competencies needed to perform work



Task Three: Competency Gap Analysis

With a Current State Analysis and Emerging Work Requirements Analysis completed, the two are merged to identify the areas where the current state cannot meet the future state. Gaps can be as simple as personnel numbers or as complicated as a complete lack of a specific required competency. Gaps are rated in terms of importance as not every gap needs to be addressed directly.

Once complete, the gap analysis defines and narrows the focus of the organization going forward. A roadmap to the future can be drawn, and a workforce plan can be created to meet the upcoming needs.

Outcomes:

- Identification of lacking competencies
- Understanding logistics personnel distribution in each Service and Agency
- Identification of needed developmental assignments and training requirements

Task Four: Plan for the Gap

With the gaps identified, strategies can be formulated and implemented. Mitigation activities can be identified to aid an organization on its way forward. Looking at best practices across the government and industry enables the identification of potential mitigation strategies tailored to address commonly discovered gaps. A sample of such mapping is seen below in Figure 13.

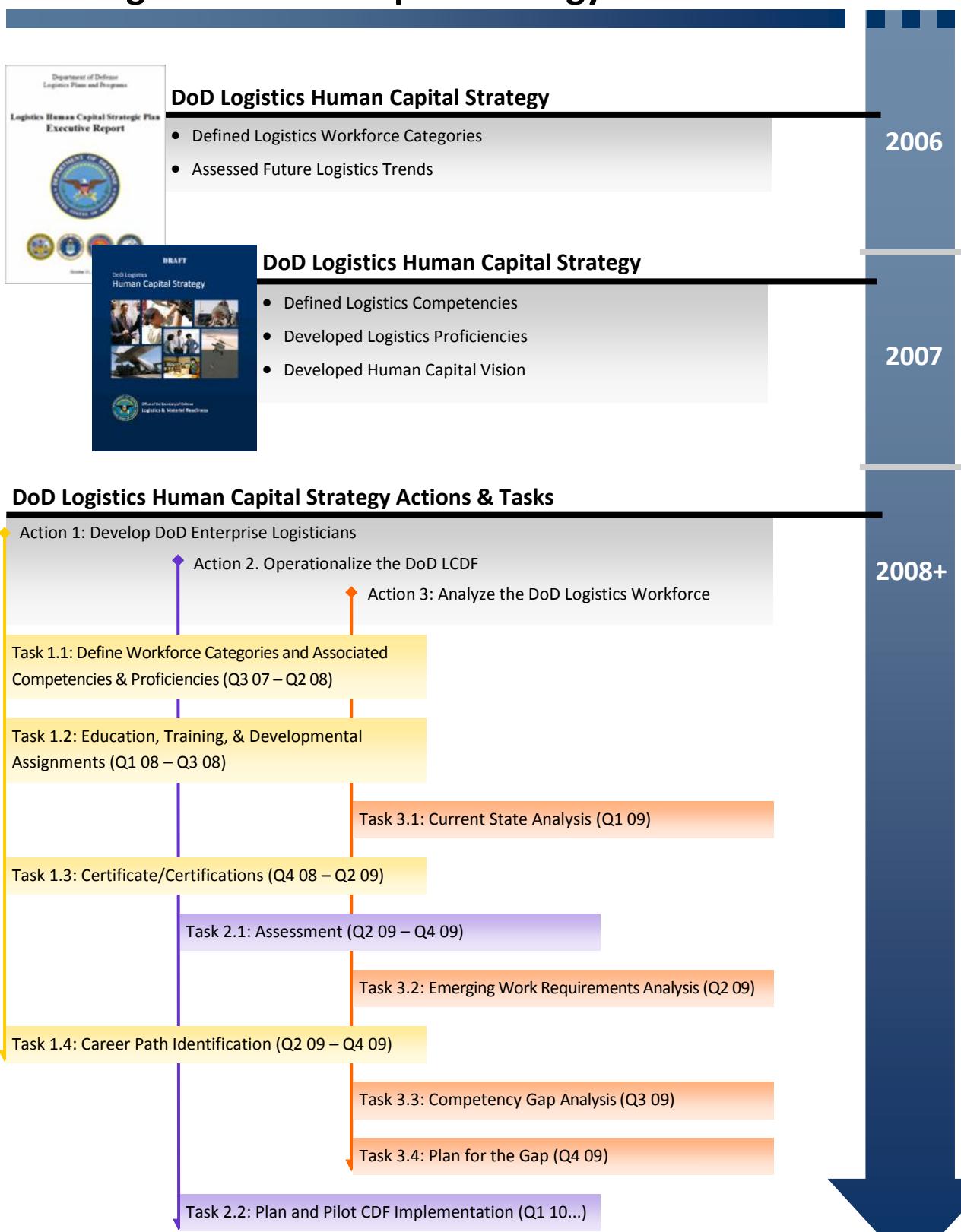
Outcomes:

- Creation of roadmap forward
- Identification of potential mitigation strategies
- Development and implementation of a competency-based development framework

Figure 13: Potential Mitigation Strategies by Identified Gaps

Gap	Mitigation Strategy
Potential turnover of users and support personnel for non-standard legacy applications/infrastructure	Legacy IT infrastructure & application renewal and sustainment
Erosion of craft and/or technical skills in field/represented personnel	Learning acceleration
Significant retirement-driven turnover at middle- and senior-management levels	Career path adjustments
Competencies require broader and deeper individual development some individuals may not be able to sustain	Competency-Based Assessment Process Development Assignment /Training Requirements Identification

DoD Logistics Human Capital Strategy Timeline



[This page intentionally left blank]



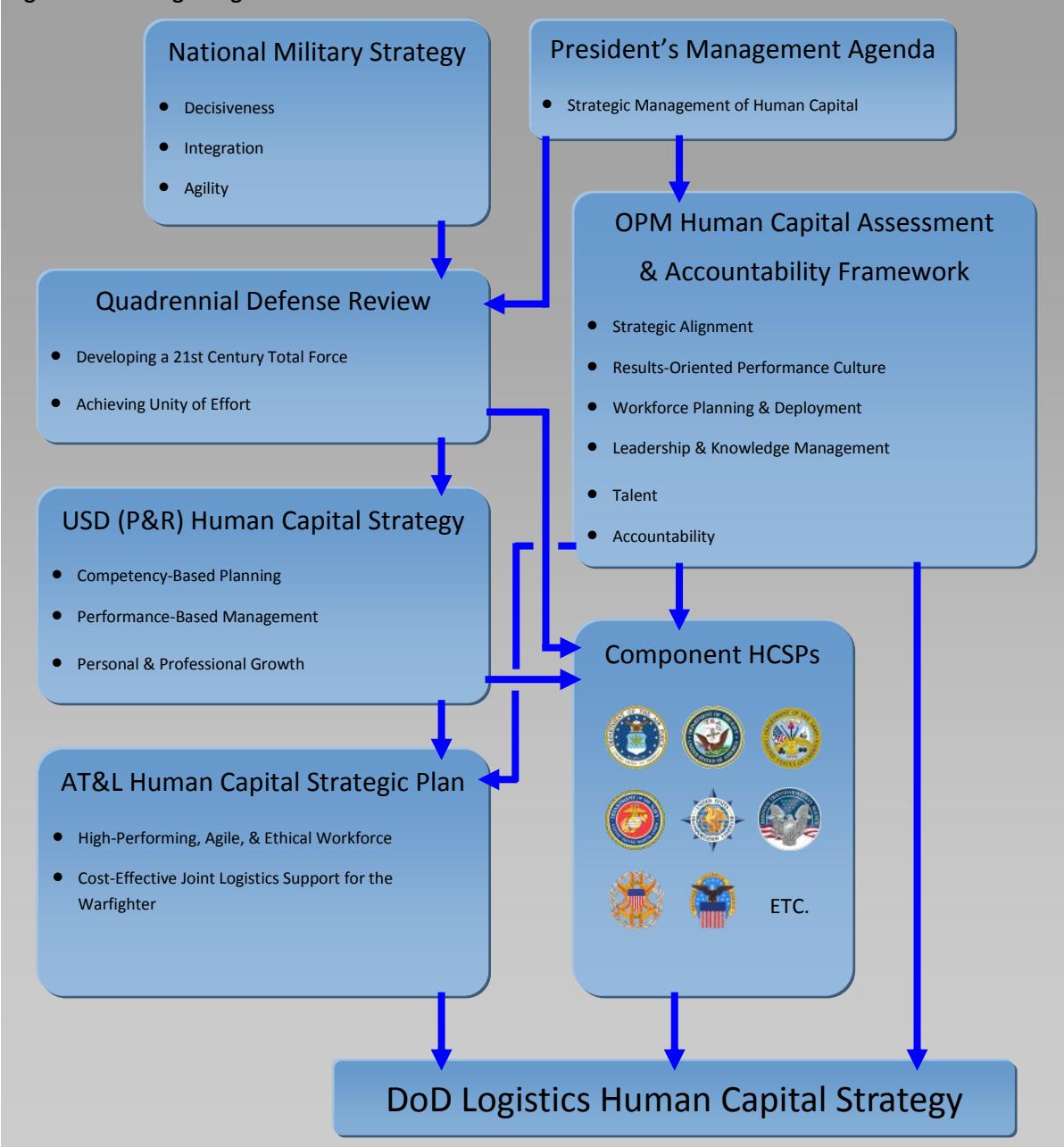
DoD Logistics Human Capital Strategy Appendices



Appendix A: Strategic Alignment and Drivers

The DoD Logistics HCS is aligned with key federal and DoD guidance, and is coordinated with numerous efforts across the Services and Agencies. This alignment assures that DoD logistics workforce human capital management transforms and evolves in a manner consistent with and in support of overarching DoD missions and human capital priorities. The following summarizes the key strategic drivers of the logistics HCS.

Figure A1: Strategic Alignment Overview





President's Management Agenda

The President's Management Agenda (PMA) comprises five initiatives for improving management and performance of the federal government; first among these is Strategic Management of Human Capital. In support of this PMA initiative, a number of human capital strategic planning programs have been initiated across the Department and within the Services and Agencies. The DoD Logistics HCS is one such program, designed to improve human capital management within the logistics workforce.

Quadrennial Defense Review

In the 2006 QDR, two areas were specifically called out to direct the focus of the human capital efforts of the Services and Agencies that comprise the DoD.

Developing a 21st Century Total Force

As part of the development of a 21st Century Total Force, the 2006 QDR recognizes the role of a Human Capital Strategy. The report considers the appropriate HCS to be "competency-focused" and "performance-based." The Services and Agencies are to identify the competencies and performance criteria that will support personnel development. From this identification, further work will focus on developing career paths and opportunities to attract and retain high-quality personnel.

Achieving Unity of Effort

There is an identified need for increased unity across the federal government and with international partners. The ability to work well within a joint environment will aid in the development of shared perspectives and provide a better understanding of how each Agency contributes to overall mission success. Personnel will be vital to this success. Logisticians, in particular, will need to unify as members of a single workforce rather than by Service or Agency.

DoD Human Capital Strategy

The DoD HCS, developed by USD(P&R) per QDR guidance, provides broad strategic guidance for development of human capital more consistent with the needs of the 21st century. The DoD HCS outlines

three objectives—decisiveness, agility, and integration—and three strategic initiatives that collectively support and enable those objectives: competency-based occupational planning, performance-based management, and enhanced opportunities for personal and professional growth.

Competency-Based Occupational Planning

The DoD HCS calls for development and implementation of a competency-based occupational planning system to describe work and workers. Under such a system, all aspects of defense capability, from firing weapons to landing aircraft, from shipping fuel to delivering supplies will be defined by competencies, and these definitions must be common across Services and Components.



Once the competencies are defined, competencies resident in today's workforce and those needed in the future must be reconciled. These demands will be based not on specific units or tasks but rather on capabilities required to support the DoD's missions. In response to competency gaps, recruiting, training, and education efforts will be amended as appropriate.

Performance-Based Management

The DoD HCS also outlines development and implementation of an enhanced performance-based management system. While the defense organizations currently use performance-based metrics in many cases, the DoD will broaden the reach of these metrics both to evaluate the strengths and weakness of the establishment as a whole and to evaluate individual Service and Agency members. A LCDF tool will directly support performance-based human capital management by providing a clear and consistent method for observing, measuring, and managing performance.

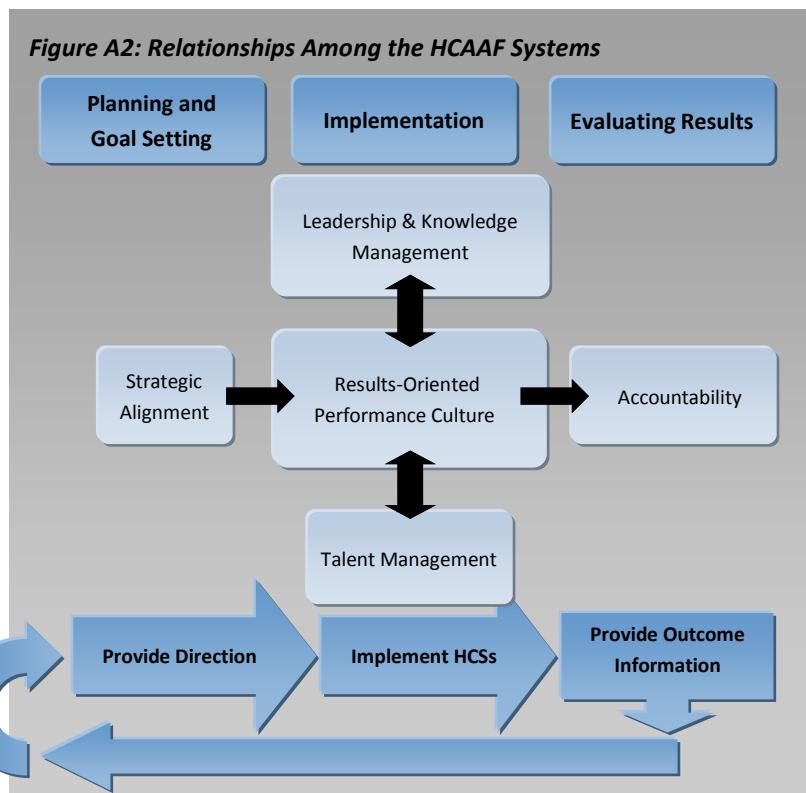
Enhanced Opportunities for Personal and Professional Growth

The final initiative in the DoD HCS is creation of enhanced opportunities for personal and professional growth. Education and training programs increase the potential of people who are already part of the DoD workforce, complement recruitment and retention efforts, and form a key component in maintaining a premier workforce. The logistics HCS supports this initiative in two ways. First, the LCDF provides logisticians with a tool for defining their career roadmap, managing their personal and professional growth, and achieving their goals. Second, education and training form a considerable portion of the ongoing HCS effort, with particular emphasis placed on ways to reduce redundancy in, improve access to, and enhance the value of existing education and training resources across DoD.

Office of Personnel Management Human Capital Framework

As part of the PMA, OPM is leading the federal government's Strategic Management of Human Capital initiative. In this role, OPM developed a comprehensive Human Capital Assessment and Accountability Framework (HCAAF) to support government agencies with their human capital efforts.

In addition, OPM revised the Human Capital Standards for Success. In the DoD Logistics HCS effort, the HCAAF and Standards for Success will be used to evaluate and guide current workforce management practices and develop human capital strategies.



Alignment with Other Organizations, Offices and Efforts

The Logistics HCS effort maintains alignment with other organizations, offices, and efforts:

- Quarterly meetings of the ESG and WG, which comprise senior leaders and logisticians from the Services and Agencies
- Reviewing effort with USD(P&R) and other Services and Agencies
- Regular participation in associated DoD working groups and forums, such as the Workforce Planning & Competency-Based Management (WPCM) Working Group, and Joint Logistics Education and Development Forum.
- Leveraging education and industry meetings, conferences, and forums to build awareness and gather additional insights



Appendix B: Key Trends and the Strategic Environment of Tomorrow

The world is changing rapidly, profoundly, and in every dimension—social, economic, and political. Understanding the forces behind this change is a prerequisite for development of effective human capital strategies, because definition and development of future logistics workforce competencies starts with identification of future work requirements.

Global Environment

The United States will remain the most significant actor on the global stage through the next decade, unmatched in military, technological, and economic prowess. That said, a number of factors will diminish American hegemony in the coming years. These include:

- **Shifting global balance of power**, due primarily to the continued growth of China, India, and other elements of the developing world. This significantly alters the competitive landscape, as explosive growth requires—and facilitates the capture of—a greater share of the world's resources.
- **Continuing spread of globalization**, which increases the interdependence of national economies, governments, and societies.
- **Exponential rate of technological advancement**, which facilitates “faster, better, cheaper” production yet requires people to operate in a more complex, information-rich environment.
- **Increasing technological competition**, manifest in the ongoing movement of the technology industry offshore. This poses a significant threat to the technological lead presently held by the United States, exposing to risk its strategic technological sectors, such as the defense-critical integrated circuit market. Adding to the growing technology deficit are alarming trends in the development of science and engineering students in the United States and abroad.

National and DoD Environment

The challenges that face the United States on the world stage in the coming years will impact all elements of American government and society, including the DoD. Some of the more influential forces at work include:

- **Slowing economic growth and increased debt burden**, combined, will significantly diminish US economic strength. With nearly half of its substantial national debt held by foreigners, the US is exposed to significant fiscal risk.
- **Shifting federal budget emphasis towards entitlements payments**, exacerbated by an aging populace and slowing economy, will place increased pressure on other areas of the federal budget, including Defense. A disproportionate share of the necessary savings will be in the logistics footprint as warfighter capability will naturally take precedence over logistics. A smaller workforce, equipped with advanced technology, improved processes, and diverse technological and business competencies, will be required to maintain and improve present logistics capabilities within tightening constraints.
- **Approaching wave of retirement across the federal workforce**, with roughly 60 percent of the total workforce approaching retirement age. The DoD faces a significant shift in its workforce demographics and risks losing the wealth of institutional knowledge resident in the departing workforce.
- **Changing threats to security**, brought on by a diminished technology advantage, the continued development and use of asymmetric weapons and tactics by conventionally-inferior enemy forces, and an increased number of state and non-state actors with the ability to strike the US with weapons of mass destruction.



Appendix C: Sample Competency with Proficiency Detail

The following is a representative competency and associated proficiencies from one of the logistics workforce categories. In this example, the technical competency is “Maintenance Operations” from the Maintenance Support workforce category (as of March 2008). Maintenance Support is the ability to manufacture and retain or restore materiel in a serviceable condition to achieve world class, agile maintenance capabilities in support the full spectrum of military operations. It includes planning and executing maintenance, both scheduled and unscheduled, to weapon systems and defense system equipment. This involves inspecting, testing, servicing, repairing, rebuilding, overhauling, upgrading and manufacturing, and applies to organizational, intermediate and depot levels of maintenance to weapon systems, hardware, equipment, software, or any combination thereof.

	Level 1	Level 2	
<i>Competency Definition</i>	<i>Demonstrated all capabilities with Regular supervision</i>	<i>Demonstrated all capabilities with Moderate supervision</i>	
Maintenance Operations Manages and coordinates maintenance strategies and operations, e.g. work loading production organization, performance metrics, internal controls, policies and procedures, compliance and other business operations related services involved in the effective running of a maintenance process unit in support of the joint or component commander. Applies to organizational, intermediate and depot levels of maintenance to weapon systems, hardware, equipment, software, or any combination thereof.	Has knowledge of and can: Define maintenance operations concepts, processes and procedures List component, joint and inter-agency processes (e.g. DMI, DSOR, DMISA, NIMSC, Depot MILCON, JTEG, etc) Define reliability, maintainability and availability concepts Define supportability analysis tools and techniques	Demonstrates understanding of and exhibits ability to: Describe maintenance operations concepts, processes and procedures Explain component, joint and inter-agency processes (e.g. DMI, DSOR, DMISA, NIMSC, Depot MILCON, JTEG, etc) Discuss maintenance planning and scheduling (1 - 3 years out) Accomplish supportability analysis using tools and techniques	Continued on next page

	Level 3	Level 4	Level 5
<i>Competency Definition</i>	<i>Demonstrated all capabilities with Limited supervision</i>	<i>Demonstrated all capabilities with Minimal supervision</i>	<i>Demonstrated all capabilities working Independently</i>
Maintenance Operations Manages and coordinates maintenance strategies and operations, e.g. work loading production organization, performance metrics, internal controls, policies and procedures, compliance and other business operations related services involved in the effective running of a maintenance process unit in support of the joint or component commander. Applies to organizational, intermediate and depot levels of maintenance to weapon systems, hardware, equipment, software, or any combination thereof.	Applies broad knowledge of maintenance operations concepts, processes and procedures Applies critical maintenance problem solving techniques and tools Develops and implements safety, environmental, quality, and training compliance guidelines Employs performance metrics & trends, and makes recommendations for corrective actions Applies maintenance planning and scheduling (1 - 3 years out) Uses output from logistics data analyses, engineering analyses, and program planning to create planning factors for maintenance activation Uses supportability analysis tools and techniques to ensure that the workload can be accomplished Investigates technology developments, repair techniques, and procedures with potential depot maintenance applications	Formulates comprehensive maintenance operations concepts, processes and procedures Recommends maintenance business operations policy, procedure, and guidance Creates and/or implements maintenance business strategies Oversees programs to ensure enforcement of applicable regulatory guidance Reviews performance metrics and trends, and implements corrective actions Manages maintenance planning and scheduling (1 - 3 years out) Composes technology insertion applications, repair technique improvements, and depot maintenance modernization strategies Reviews output from logistics data analyses, engineering analyses, and program planning for maintenance strategy applicability	Exhibits mastery of maintenance operations concepts, processes and procedures Manages complex cost, schedule and performance related to maintenance issues Approves maintenance business policy, procedure, and guidance Oversees and enforces safety, security, environmental, quality, and training compliance Approves maintenance business strategies Oversees performance metrics and trends, and ensures corrective actions are implemented Assesses and approves maintenance planning and scheduling (1 - 3 years out) Approves technology insertion applications, repair technique improvements, and depot maintenance modernization strategies Represents maintenance position at multi-agency meetings and conferences Approves maintenance strategy based upon output from logistics data analyses, engineering analyses, and program plan

Appendix D: References and Further Information



Government References

Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2007 to 2016*, 2006.

Defense Science Board Task Force, "Report on High Performance Microchip Supply," 2005.

Department of Defense, *Annual Human Capital Management Report for Fiscal Year 2007*, 2007.

Department of Defense, *Civilian Human Capital Strategic Plan, 2006-2010*, 2006.

Department of Defense, *Defense Acquisition, Technology, and Logistics Workforce Education, Training, and Career Development Program, DoD 5000.52*, 2005.

Department of Defense, *Enterprise Transition Plan 2006*, 2006.

Department of Defense, *Focused Logistics Roadmap*, 2006.

Department of Defense, *Joint Logistics Support, Joint Publication 4-0*, 2007.

Department of Defense, *Logistics Transformation Strategy: Achieving Knowledge-Enabled Logistics*, 2004.

Department of Defense, *National Defense Strategy*, 2005.

Department of Defense, Business Transformation Agency, *Human Capital Strategy*, 2007.



Department of the Army, *Strategic Management of Human Capital in the US Army Corps of Engineers*, 2002.

Department of the Navy, *Human Capital Strategy*, 2007.

Executive Office of the President of the United States, *The President's Management Agenda*, 2002.

National Security Personnel System, <http://www.cpms.osd.mil/nsps/index.html>.

National Aeronautic and Space Agency, *NASA' Strategic Human Capital Implementation Plan*, 2006.

National Intelligence Council, *Global Trends 2015: A Dialogue About the Future With Non-government Experts*, 2000.

National Intelligence Council, *Mapping the Global Future: Report of the National Intelligence Council's 2020 Project*, 2004.

Office of Personnel Management, *Human Capital Assessment and Accountability Framework*.

Office of Personnel Management, *Key Components of a Human Capital Strategic Plan*, 2005.

Office of the Secretary of Defense, *Quadrennial Defense Review Report*, 2006.

Office of the Secretary of Defense (Acquisition, Technology & Logistics), *AT&L Human Capital Strategic Plan v3.0*, 2007.



Office of the Secretary of Defense (Personnel and Readiness), *DoD Human Capital Strategy*, 2006.

Office of the Secretary of Defense (Personnel and Readiness), *Competency Management and Workforce Planning Information*, 2007.

US Government Accountability Office, *DoD Civilian Personnel: Comprehensive Strategic Workforce Plans Needed*, GAO-04-753, 2004.

US Government Accountability Office, *Guide for Assessing Strategic Training and Development Efforts in the Federal Government*, GAO-04-546G, 2004.

US Government Accountability Office, *Key Principles for Effective Strategic Workforce Planning*, GAO-04-39, 2003.

US Government Accountability Office, *Strategic Human Capital Management*, GAO-03-120, 2003.

General References

Akin, COL Mark W. USA & Topic, Mr. George L., "Transforming Joint Operational Level Logistics: the Pressing Need To Achieve Synergy," *Joint Force Quarterly* 47, 2007.

Aruspex, "Workforce Planning Metrics – Dream (and) Reality," 2006.

Christianson, Lieutenant General C.V., "Joint Logistics in the Future," *Joint Force Quarterly* 41, 2006.

Dychtwald, Ken, Erickson, Tamara, & Morison, Robert, *Workforce Crisis: How to Beat the Coming Shortage of Skills and Talent*, Boston, MA: Harvard Business School Press, 2006.

IBM Industry Solutions Lab, *Global Technology Outlook 2006*, Zurich, Switzerland: IBM, 2006.

IBM, *Global Innovation Outlook 2.0*. Armonk, NY: IBM, 2006.

Zolli, Toledano, "Demographics: The Population Hourglass," *Fast Company* 103 (Mar 2006): 56.

Further Information

The HCS is available online at:

<http://www.acq.osd.mil/log/sci/hcsp.htm>

For further information, contact:

Carol Conrad, Project Manager
OADUSD (L&MR) Supply Chain Integration
(703) 604-0098
Carol.Conrad@osd.mil



